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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/990,509	11/21/2001	Dan A. Steinberg	23091/31 (ACT-169)	3384

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Adrian T. Calderone
DILWORTH & BARRESE, LLP
333 Earle Ovington Blvd.
Uniondale, NY 11553

EXAMINER

STAHL, MICHAEL J

ART UNIT

PAPER NUMBER

2874

DATE MAILED: 07/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/990,509

Applicant(s)

STEINBERG ET AL.

Examiner

Mike Stahl

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16-22 is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 7 and 11-15 is/are rejected.
- 7) ☐ Claim(s) 4, 5 and 8-10 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5, 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

Information Disclosure Statement

The references submitted 27 February 2002 and 1 March 2002 have been considered.
Initialed copies of form PTO-1449 are attached.

Claim Objections

Claim 4 is objected to because it does not end with a period.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 13 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 13 refers to "the optical semiconductor component" but no such component is mentioned in parent claim 1. It appears that claim 13 should depend from claim 2.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-4, 6-7, 11-12, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamane et al. (US 5557695).

Yamane discloses an optical device package (figs. 34, 44 and 45) comprising a substrate **21** having an upper surface and a longitudinal notch **24** extending from a proximal end to a lateral groove **27** at least partially defined by a proximal facing stop surface (i.e. the vertical sidewall of groove **27** which is flush with the output face of waveguide **22**). When the package is fully assembled following the motion of the arrows in fig. 45, a fiber **23** is positioned in the notch and a frame **25** is mounted to the upper surface of the substrate, the frame having a pair of downwardly extending projections **64A** and **64B** (fig. 44) engaged in respective lateral end portions of groove **27** (col. 26 lines 29-37). The frame **25** also has a recess **26** for engaging an upper surface of fiber **23**. Thus the Yamane package meets the requirements of independent claims 1 and 15.

As to claim 3, the projections **64A/B** have a rectangular shape.

As to claim 4, the fiber **23** has a distal endface **23a** which abuts the stop surface of the substrate when the package is assembled.

As to claim 6, the frame **25** includes a single piece member defining an opening **45**, and has two downward pointing projections **64A/B** engaged in the lateral end portion of groove **27**.

The frame **25** also has a recess **26** for engaging an upper surface of fiber **23** as required by claim 7.

As to claim 11, frame **25** has a quadrilateral shape.

As to claim 12, substrate **21** consists of single crystal silicon (col. 16 lines 36-55).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 13, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamane et al. (cited above).

As to claims 2 and 13, Yamane does not disclose an optical semiconductor component mounted on substrate **21** (the waveguide **22** is made of silica, which is not considered a semiconductor, and is fabricated on the substrate, not actually mounted on it). However, it would have been obvious to a person having ordinary skill in the art to couple an optical semiconductor component to the distal end of waveguide **22** in order to carry out a system function, e.g. reception, transmission, or modulation of optical signals traveling to or from fiber **23**. Arrangements comprising a fiber coupled to a planar waveguide which is further coupled to an optical transmitter or receiver are common and well known. As to claim 13 in particular, all the recited components are old in the art and it would have been obvious to a skilled person to use any of them to perform the reception or transmission functions mentioned above.

Regarding claim 14, Yamane shows only a fiber **23** without a ferrule. Fiber/ferrule combinations are already known in the art. It would have been obvious to a skilled person to modify (e.g. widen) the respective grooves **24/26** of Yamane to accommodate a ferrule housing a fiber, since such modification would afford additional protection for fiber **23** and would enable

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the Yamane package to be used with a typical pre-terminated fiber without the need to separate it from its ferrule.

Allowable Subject Matter

Claims 16-22 are allowed. Claims 5 and 8-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As to claim 16, neither Yamane nor any other reference of record teaches or suggests a method for making a device package which includes all the steps of claim 16. For example, Yamane does not disclose or suggest mounting a lid to the frame **25**. There is no obvious reason why a lid would be necessary in this arrangement. Yamane also fails to disclose forming an electrical lead on the substrate **21**. Claims 17-22 are allowable by dependence from claim 16.

As to claim 5, there is no teaching or motivation in Yamane to mount a lid to the frame **25** as noted above.

As to claim 8, the frame **25** is merely a silicon block for supporting the fiber **23**. Since the frame has no electronic devices itself, there is no apparent reason to modify it to include internal electrical connections. Claims 9 and 10 depend from claim 8.

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Conclusion

Any inquiry concerning this communication should be directed to Mike Stahl at (703) 305-1520. Official communications eligible for submission by facsimile may be faxed to (703) 308-7724 or (703) 308-7722. Inquiries of a general or clerical nature (e.g., a request for a missing form or paper, etc.) should be directed to the Technology Center 2800 receptionist at (703) 308-0956 or to the technical support staff supervisor at (703) 308-3072.

MJS

Michael J. Stahl
Patent Examiner
Art Unit 2874


HEMANG SANGHAVI
PRIMARY EXAMINER

24 June 2003